



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/574,118

03/30/2006

Frank Morton

27843-147A

5496

34238

7590

08/21/2009

ARTHUR G. SCHAIER
CARMODY & TORRANCE LLP
50 LEAVENWORTH STREET
P.O. BOX 1110
WATERBURY, CT 06721

EXAMINER

PILKINGTON, JAMES

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

08/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,118	Applicant(s) MORTON, FRANK	
	Examiner JAMES PILKINGTON	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 4-8 and 16-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-15 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/30/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 4-8 and 16-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 1, 2009. However, the Applicant has not distinctly and specifically pointed out any supposed errors in the restriction requirement, therefore, the election is being treated as being made without traverse (see MPEP 818.03(a)). The election requirement is made FINAL.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. ("In a preferred embodiment, a system including:").

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 9 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 14 recite the limitation "said tapered surface on said anti-backlash nut is about 30 degrees from horizontal", however, no frame of reference has been provided for the orientation of the nut. Is the nut arranged vertically or horizontally?

Claim 9, lines 4-6 recites the same limitations as found in claim 1, lines 2-5. Since claim 9 is dependent on claim 1 it is not clear if "an anti-backlash nut", "a drive nut" and "biasing means" are the same as those recited in claim 1 or a second set of nuts and biasing means. Is this an additional set of nuts and biasing means being claimed?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 9, 13-15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erikson, USP 6,041,671, in view of Scholer, USP 732,590.

Regarding claims 1, 3, 9, 13, 15 and 21, Erikson '671 discloses a system, comprising an anti-backlash nut (16) having a surface (16a) at one end thereof, a drive nut (14) having a complementary surface (24b) engaging said surface (16a) on said anti-backlash nut (16) and biasing means (52) urging said surfaces together, the biasing

Art Unit: 3656

means (52) surrounds at least a portion of the anti-backlash nut (16), the nuts (14 and 16) are internally threaded (29a and 29b) and have axial openings (openings of bores) to accommodate a lead screw (10).

Erikson '671 does not disclose that the surfaces of the nuts are tapered.

Scholer teaches a nut arrangement where mating surfaces of the nuts are tapered (see Figure 1) for the purpose of providing a mating arrangement which prevents the nuts from becoming loose (C1/L10-21 and L37-44).

It would have been obvious to one having ordinary skill in the art at the time of invention to use made to modify Erikson '671 and provide a tapered surface as the mating arrangement of the nuts, as taught by Scholer, for the purpose of providing a mating arrangement which prevents the nuts from becoming loose.

Regarding claims 2 and 14, Erikson '671 in view of Scholer discloses all of the claim limitations as applied above.

Scholer does not disclose the angle of the tapered surface being about 30 degrees from horizontal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the angle about 30 degrees from horizontal. The Applicant is silent to any criticality for the use of an angle of about 30 degrees which renders the specific angle a matter of engineering design choice and thus does not serve to patentably distinguish the claimed invention from the applied prior art and any angle on

Art Unit: 3656

the tapered surface would yield the predictable result of providing an frictional engagement between the two nuts.

Claims 1-3, 9-15 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erikson, USP 6,131,478, in view of Scholer, USP 732,590.

Regarding claims 1, 3, 9-13, 15 and 21-24, Erikson '478 discloses a system, comprising an anti-backlash nut (16) having a surface (42) at one end thereof, a drive nut (14) having a complementary surface (26) engaging said surface (42) on said anti-backlash nut (16) and biasing means (60) urging said surfaces together, the biasing means (60) surrounds at least a portion of the anti-backlash nut (16, see Figure 3, overlaps the extension on 16 that engages the threads), the nuts (14 and 16) are internally threaded (29 and 31) and have axial openings (openings of bores) to accommodate a lead screw (10), said biasing means (60) is a torsion spring wherein at least one end (64) of said torsion spring (60) is inserted into a hole/channel (48) defined axially in an outer periphery of said anti-backlash nut (16).

Erikson '478 does not disclose that the surfaces of the nuts are tapered.

Scholer teaches a nut arrangement where mating surfaces of the nuts are tapered (see Figure 1) for the purpose of providing a mating arrangement which prevents the nuts from becoming loose (C1/L10-21 and L37-44).

It would have been obvious to one having ordinary skill in the art at the time of invention to use made to modify Erikson '478 and provide a tapered surface as the

Art Unit: 3656

mating arrangement of the nuts, as taught by Scholer, for the purpose of providing a mating arrangement which prevents the nuts from becoming loose.

Regarding claims 2 and 14, Erikson '478 in view of Scholer discloses all of the claim limitations as applied above.

Scholer does not disclose the angle of the tapered surface being about 30 degrees from horizontal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the angle about 30 degrees from horizontal. The Applicant is silent to any criticality for the use of an angle of about 30 degrees which renders the specific angle a matter of engineering design choice and thus does not serve to patentably distinguish the claimed invention from the applied prior art and any angle on the tapered surface would yield the predictable result of providing a frictional engagement between the two nuts.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PILKINGTON whose telephone number is (571)272-5052. The examiner can normally be reached on Monday - Friday 7-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571)272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3656

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES PILKINGTON/

Examiner, Art Unit 3656

8/18/09

/Thomas R. Hannon/

Primary Examiner, Art Unit 3656